

CLAIMS

1. Network antenna of the RLSA type in the form of a radial waveguide (3) and having a feed structure allowing simultaneous excitation of the antenna in two orthogonal linear polarizations, characterized in that the feed structure, essentially placed to the rear of the antenna, consists of a circular waveguide (6) placed at the centre of the radial waveguide and coupled to the latter by two circular slots (7, 8) for the excitation of the antenna in a first linear polarization and of a coaxial waveguide (10) surrounding the circular waveguide (6) and coupled to the radial waveguide (3) by radial slots (12), the coaxial waveguide (10) being excited by a ring-shaped waveguide (9) placed coaxially on the outer periphery of the coaxial waveguide and coupled to the latter by slots (11) distributed around the inner periphery of the ring for the excitation of the antenna in a second linear polarization orthogonal to the first linear polarization.

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2. Antenna according to Claim 1, in which the first linear polarization is excited by means of a first rectangular input waveguide (4) propagating the  $TE_{01}$  fundamental mode, oriented along an axial direction of the antenna, in the circular waveguide (6).

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3. Antenna according to Claim 1, in which the second linear polarization is excited by means of a second rectangular input waveguide (5) propagating the  $TE_{01}$  fundamental mode, oriented in a direction perpendicular to the axial direction of the antenna, in the ring-shaped waveguide (9).

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4. Antenna according to Claims 2 and 3, in which the two rectangular input waveguides (4, 5) are placed parallel to each other.

5. Antenna according to Claim 4, in which the two rectangular input waveguides (4, 5) are placed one beneath the other.

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